(54) Title: METHOD, DEVICE AND SYSTEM FOR DETERMINING A TRANSMISSION POWER FOR ARQ RELATED RE-TRANSMISSIONS
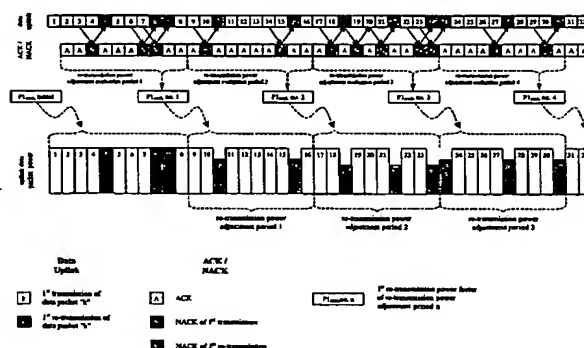
(57) Abstract: The present invention provides a method, a mobile terminal device and a system for determining a transmission power factor. Further, software tools and computer programs being based on embodiments of the method of the invention are also provided. During an uplink of data between a mobile terminal device and a base station via a code division multiple access (CDMA) system supported by automatic repeat request (ARQ) first transmission containing original data and re-transmissions of different order containing supplementary information are communicated. The i-th re-transmissions are based on the automatic repeat request (ARQ). The transmission power factor to be determined is operable with an i-th re-transmission. A first and a second error quantity are obtained from an evaluation of status information items received in accordance with the automatic repeat request (ARQ). The first error quantity is equal to an number of ARQ relating i-th re-transmissions whereas the second quantity is equal to a number of i-th re-transmissions being responded by status information items each containing an ARQ relating non-acknowledgement item. The first error quantity and the second error quantity allow for deriving an i-th error ratio and depending on that a transmission power correction factor is calculated. The transmission power factor being operable with i-th retransmissions is determined finally from a current valid transmission power factor and the calculated transmission power correction factor.